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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/087,719	02/28/2002	Jonathan L. Bosloy	2545-000021	7485
27572	7590	03/10/2005	EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C.			LE, TRAN Q	
P.O. BOX 828			ART UNIT	
BLOOMFIELD HILLS, MI 48303			PAPER NUMBER	
			2633	

DATE MAILED: 03/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/087,719

Applicant(s)

JONATHAN L. BOSLOY ET AL.

Examiner

Tran Q. Le

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 35 is/are allowed.
- 6) ☒ Claim(s) 1-13, 16-28, 30-34 is/are rejected.
- 7) ☒ Claim(s) 14, 15 and 29 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>02/28/02</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-11, 16-26, 30-31 and 33-34 are rejected under 35 U.S.C. 102(e) as being anticipated by Beine et al. (US Patent No. 6,304,347).

Regarding claim 1, Beine discloses a request method for performing optical power management to accomplish planned addition and removal of wavelengths in an optical communications system, each wavelength having a path of transmission through the system (abstract and fig. 3), comprising:

communicating a request for a power ramp to at least one path network component in the path (942, fig. 9B and col. 18, lines 49-54);

determining that the path network component has made preparations for the power ramp (944, 946, 948, fig. 9B and col. 18, lines 55-63); and

performing a power ramp in response to said determining (952, fig. 9B and col. 19, lines 1-8).

Regarding claims 2 and 20, Beine discloses a step of receiving an acknowledgement (950, fig. 9B) and determining that the path network component has made preparations for the power ramp based on the acknowledgement (952, fig. 9B).

Regarding claims 3 and 24, Beine discloses a step of waiting a predetermined amount of time to allow the path network component to make preparations for the power ramp (col. 19, lines 42-48), and determining that the path network component has made preparations for the power ramp based on the elapsed wait time (col. 19, lines 9-28).

Regarding claims 4 and 21, Beine discloses the path network component is adapted to send the acknowledgement (952, fig. 9B) subsequent to the preparations (step 950, fig. 9B, note that notification is sent before decrease of power by upstream element).

Regarding claims 5 and 22, Beine discloses the path network component is adapted to make the preparations (944, 946, 948, fig. 9B and col. 18, lines 55-63) in response to receiving a request for a power ramp (942, fig. 9B and col. 18, lines 49-54).

Regarding claim 6, Beine discloses notifying the path network component of completion of the power ramp (960, fig. 9B, col. 19, lines 34-41, and fig. 21, col. 38, lines 9-32).

Regarding claim 7, Beine discloses resuming normal operating conditions at the path network component in response to said notifying (932, fig. 9A, and col. 19, lines 54-63).

Regarding claim 8, Beine discloses the step of performing a power ramp further comprises ramping up power input to the optical communication system (fig. 6, col. 11, lines 29-67 and col. 12, lines 1-13).

Regarding claim 9, Beine discloses step of ramping down power input to the optical communication system (942, fig. 9B and col. 18, lines 49-54).

Regarding claims 10 and 25, Beine discloses using a data communications network to connect at least two network components in the optical communication system (fig. 2 and col. 4, lines 42-67).

Regarding claims 11 and 26, Beine discloses using an optical supervisory channel to communicate the request (fig. 2 and col. 4, lines 42-67).

Regarding claim 16, Beine discloses the step performing occurs at a rate that allows the optical amplifier to track the change in input power gracefully and maintain constant gain, thereby reducing transient behavior (col. 7, lines 60-67).

Regarding claims 17 and 33, Beine discloses a network component adapted to accomplish planned addition and removal of wavelengths (e.g. 202, fig. 3).

Regarding claims 18 and 34, Beine discloses an optical communications system adapted to perform addition and removal of wavelengths (fig. 3).

Regarding claim 19, Beine discloses a response method for performing power management to accomplish planned addition and removal of wavelengths in an optical communications system, each wavelength having a path of transmission through the system, the method comprising:

receiving a request for a power ramp (942, fig. 9B and col. 18, lines 49-54);

making preparations for the power ramp (954-958, fig. 9B and col. 19, lines 9-28);

determining that the power ramp has been completed (959-960, fig. 9B and col. 19, lines 29-41); and

resuming normal operation in response to said determining (932, fig. 9A, and col. 19, lines 54-63).

Regarding claim 23, Beine discloses receiving a notification, said notification indicating completion of the power ramp, wherein said determining is based on said receiving a notification (952, fig. 9B, note that upstream element decreases power and outputs new parameter, as recited in step 952).

Regarding claim 30, Beine discloses a step of receiving at least one downstream acknowledgement (950, fig. 9B) from an adjacent, downstream network component, the downstream acknowledgement indicating that the downstream network component has made preparations for the power ramp (944, 946, 948, fig. 9B, and col. 18, lines 55-63), wherein the sending occurs subsequent to the receiving at least one downstream acknowledgement (942, fig. 9B, and col. 18, lines 49-54).

Regarding claim 31, Beine discloses sending the acknowledgement to an adjacent, upstream network component (950, fig. 9B, and col. 18, lines 64-67).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Beine et al. (US Patent No. 6,304,347)

Regarding claim 32, Beine teaches receiving at least one downstream acknowledgment corresponds to receiving downstream acknowledgements at different levels according to transmission hierarchy layers of the system (abstract, note that Beine teaches a system with a plurality of nodes being able to exchange the power parameter info between the nodes, and some of nodes are reconfigured based on power parameters info, and steps of exchanging power parameters info and reconfiguration are repeated until the network is fully configured so that desired signal power levels are selected, therefore, it is obvious that the step of receiving downstream acknowledgements must be performed at different levels according to transmission hierarchy layers of the system in order to provide consistent response of all the nodes to any change in the spectrum of the WDM signal traveling along the transmission path).

5. Claims 12 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beine et al. (US Patent No. 6,304,347) in view of Touma (US Patent No. 6,819,875).

Regarding claims 12 and 27, Beine discloses all the aspects of claims 1 and 19, except fails to teach the path network component is further defined as an optical

amplifier, such that the preparations for the power ramp includes switching from an automatic power control mode to an automatic gain control mode.

However, Touma, in the same field of endeavor, teaches the path network component is further defined as an optical amplifier (31, fig. 18), such that the preparations for the power ramp includes switching from an automatic power control mode to an automatic gain control mode (fig. 18 and col. 2, lines 8-22).

Therefore, it would have been obvious for one ordinary skill in the art at the time the invention was made to use an optical amplifier such as the one of Touma in the optical management system of Beine in order to provide constant power for each channel in case of a change in the number of wavelengths due to addition or removal of wavelengths in the WDM system.

6. Claims 13 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beine et al. (US Patent No. 6,304,347) in view of Wight et al. (US Pub. No. 2003/0151799).

Regarding claims 13 and 28, Beine discloses all the aspects of claims 1 and 19, except fails to teach the path network component is further defined as Raman pump, such that the preparations for the power ramp includes entering a static mode. Beine teaches optical amplifiers along the path between the components, but he does not specifically teach a Raman pump for the path network components.

However, Wight teaches a path network component (fig. 3) with a Raman pump (12, fig. 3) entering a static mode for a power ramp (abstract, note that the Raman



pump can detect a power decrease or increase in the spectrum of the WDM signal and re-distribute the power variation over the predicted launch spectrum accordingly on the sub-bands with the added/dropped/failed channels only, therefore, it can be understood that it enters a static mode for the preparation of the power ramp).

Therefore, it would have been obvious for one ordinary skill in the art at the time the invention was made to use a Raman pump such as the one of Wight for the optical amplifiers in the optical transmission system of Beine in order to provide power ramp and to increase the signal strength.

***Allowable Subject Matter***

7. Claims 14, 15, and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claim 35 is allowed.

9. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 14 and 29, the prior art of record still fails to teach the path network component is further defined as a dynamic gain equalizer, such that the preparations for the power ramp includes at least one of: freezing a current operating state of the dynamic gain equalizer; and ignoring power levels of wavelengths undergoing a power ramp and continuing to equalize power levels of remaining wavelengths that are in service.

Regarding claim 15, the prior art of record still fails to teach the path network component is adapted to receive a downstream acknowledgment from a downstream network component in the path, the downstream acknowledgement indicating that the downstream network component has made preparations for the power ramp, wherein the path network component is adapted to send the acknowledgement subsequent to receipt of the downstream acknowledgement, wherein the path network component is adapted to send the acknowledgment to an upstream network component, wherein an upstream direction corresponds to a first direction along the path that is toward a source point of the wavelength, and wherein a downstream direction corresponds to a second direction along the path that is toward a termination point of the wavelength.

10. The following is an examiner's statement of reasons for allowance: claim 35 is allowable because the prior art does not teach or fairly suggest the following:

an optical communications system operable to perform power management to accomplish planned addition and removal of wavelengths, each wavelength having a path of transmission through the system, the system comprising: a first network component adapted to communicate a request for a power ramp downstream, to receive an acknowledgement from downstream, to perform the power ramp in response to receipt of the acknowledgment, and to send a notification downstream subsequent to performance of the power ramp, wherein the notification indicates that the power ramp has been completed; and a second network component in communication with and downstream from said first network component, the second network component

adapted to receive the request from upstream, to make preparations for the power ramp, to send the acknowledgement upstream subsequent to the preparations, wherein the acknowledgment indicates that said second network component has made preparations for the power ramp, to receive the notification from upstream, and to resume normal operations in response to receipt of the notification.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Antoniades et al. (US Pub. No. 2002/0163683) is cited to show a performance optimizer for transmission systems.

Roorda et al. (US Pub. No. 2002/0186432) is cited to show an architecture for a photonic transport network.


### ***Conclusion***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran Q. Le whose telephone number is (571)272-2046. The examiner can normally be reached on 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TQL

  
**M. R. SEDIGHIAN**  
**PRIMARY EXAMINER**